

REMARKS

A. Background

Claims 51-78 were pending in the application at the time of the Office Action with claims 61, 62 and 73 having been withdrawn. Claims 51-60, 63-72 and 74-78 were rejected as being obvious over cited art. By this response applicant has not cancelled, amended, or added any claims. As such, claims 51-60, 63-72, and 74-78 are again presented for the Examiner's consideration in light of the following remarks.

B. Obviousness Rejections

1. Claims 51-55, 57-59, 63, 65, 66, 69-72 and 74-78

Paragraph 2 of the Office Action rejects claims 51-55, 57-59, 63, 65, 66, 69-72 and 74-78 under 35 USC § 103(a) as being unpatentable over WO 00/74734 to Watling ("Watling") in view of U.S. Patent No. 6,630,105 to O'Neill et al. ("O'Neill"). Applicant respectfully traverses this rejection and asserts that one of skill in the art would not find it obvious to combine the cited references as alleged in the Office Action.

Initially, applicant notes that David Watling, a named inventor in the present application, is also the named inventor in the above cited WO 00/74734 *Watling* reference. As shown in Figure 1 and discussed in the Response to Office Action submitted in the present case on October 11, 2007, ("the prior response"), *Watling* discloses a fixed sterilizing apparatus used to repeatedly sterilize a sealed enclosure 1. For example, the sterilizing apparatus can be used to repeatedly sterilize an operating room which would correspond to sealed enclosure 1. The apparatus includes a preparation region (also called the "means of processing" or "processing means") located outside of sealed enclosure 1. The preparation region includes, among other

things, a filter 4, a purifier 5, a heater 7, a fan or pump or compressor 8, a pressure controller 21, a flow measurement device 9, another filter 25 and an evaporation chamber 10, connected together via pipes or ductwork and controlled by a controller module 19. *Watling* teaches that “[t]he sealed enclosure is connected to ... [the] means of processing by two pipes through which air or a mixture of air and gases, where the gases are hydrogen peroxide and water vapour, may circulate.” p. 2, lines 28-30.

During operation, as the gas circulates, the gas is heated by heater 7 and the decontaminant gas (typically hydrogen peroxide) and water vapor mixture are dispensed into the gas in the evaporation chamber 10. See, e.g., Abstract. After the airstream has been heated and had additional hydrogen peroxide gas added to it in the means of processing, “the enriched air/gas mixture is then passed through the connection [i.e., one of the pipes] from the processing means to the sealed chamber.” p. 3, lines 18-20; see also p. 2, line 35 to p. 3, line 18; p. 6, lines 1-4. The gas circulates through the sealed enclosure 1 and back to the processing means via the other pipe.

One of the objects of *Watling* is to provide improved sterilization by condensing a uniform “micro-condensation” layer of the decontaminant on all surfaces within sealed enclosure 1. Pages 5 and 7. This “micro-condensation” layer is achieved by increasing the concentration of the decontaminating gas within sealed enclosure 1 to a level above the dew point, monitoring the deposition of the “micro-condensation” layer, and then lowering the concentration of the decontaminating gas within sealed enclosure 1 to a level below the dew point. Controlling the dew point, and thus the deposition of the “micro-condensation” layer, is achieved by carefully controlling parameters such as pressure, temperature, and gas concentration within sealed enclosure 1.

The Office Action concedes that *Watling* “does not appear to disclose [] the steps of creating a recirculating heated airstream and progressively introducing hydrogen peroxide/water vapour into the recirculating heated airstream being performed by an apparatus that is disposed within the enclosed space.” Office Action, page 3 (emphasis added). The Office Action then points to *O'Neill* to remedy this shortcoming of *Watling*.

Applicant notes that in the prior response, Applicant argued that it would not be obvious to combine *Watling* and *O'Neill* because the cited references teach away from their combination. Specifically, Applicant argued that “it is an express object of *Watling* to produce a condensation of the decontaminant in the enclosure, whereas *O'Neill* expressly teaches away from decontamination by condensation.” In the Response to Argument section of the present Office Action, the Examiner asserts that this argument is not persuasive because “O'Neill is merely relied upon to provide motivation for one of ordinary skill in the art to make the gas generating apparatus of *Watling* portable.” Office Action, page 12.

Applicant submits, however, that while *O'Neill* may arguably show a portable decontamination apparatus, it nonetheless would not be obvious to make the *Watling* apparatus portable simply by virtue of the *O'Neill* disclosure. *O'Neill* is directed to a small, handheld portable unit that is designed to be manually used to progressively sterilize surfaces. More specifically, *O'Neill* teaches that the “system utilizes a stream of oxygen or air in which ozone, O₃, has been produced using a standard ozone generator 8, FIG. 1 and FIG. 2. The ozone containing gas stream is then illuminated by intense UV light.” Col. 3, lines 4-8. As a result of illuminating the ozone with the UV light, hydroxyl radicals are produced that are strong oxidizing agents effective in decontamination. Col. 3, lines 35- 45.

In the embodiments depicted in Figures 1-3, *O'Neill* teaches applying the ozone enriched gas directly against an area using a wand/nozzle. A UV light source, which can be mounted on the wand/nozzle, is simultaneously shined on the area so as to produce the hydroxyl radicals that decontaminate the area. An entire surface or object can be decontaminated by progressively moving the wand/nozzle over the surface or object.

In view of the foregoing, it is appreciated that the *Watling* and the *O'Neill* methods and systems for decontamination are very different. *Watling* discloses a fixed system that is mounted outside of a sealed enclosure. The fixed system is designed to saturate the sealed enclosure with a decontamination gas and water vapor so that a micro-condensation layer of the decontaminant is substantially uniformly and simultaneously deposited on all surfaces within the sealed enclosure. In contrast, *O'Neill* discloses a portable system using a wand/nozzle that progressively decontaminates a surface by passing a wand/nozzle over the surface. The wand/nozzle dispenses an ozone gas on the surface and shines a UV light thereon to form the decontaminant.

The *O'Neill* system is specifically designed to function as a portable and manually manipulatable system. That is, it would be impossible to simultaneously and uniformly decontaminate an entire sealed enclosure using the *O'Neill* system. This is because it would be impossible to simultaneously and uniformly shine UV light on all surfaces within an enclosed space, *i.e.*, around corners, on the underside of tables, below low lying equipment, and in other crowded and shadowed areas. The *O'Neill* system is portable and manually manipulatable so as to enable the wand/nozzle to be progressively passed over and UV light shined on all desired surface. In contrast, because *Watling* is saturating the room with a gas so that all surfaces within the room are simultaneously and uniformly decontaminated, *Watling* does not have any need for

portability or manipulation of the system. Accordingly, because *Watling* operates using a very different method and system than *O'Neill* and does not need the ability to be moved or manipulated as is required under *O'Neill*, applicant submit that there is simply no reason or motivation based on the teachings in *O'Neill* to modify the *Watling* system so that the preparation region is portable and disposed within the sealed enclosure.

Furthermore, applicant submits that the *Watling* system would not function as intended if the preparation region was positioned inside of enclosed space 1. As discussed above, to control the deposition of the micro-condensation layer, parameters within enclosed space 1, such as pressure, temperature, and gas concentration, must be strictly controlled. *Watling* specifically teaches that “because it may be necessary to control the pressure inside the sealed enclosure a pressure control module 21 is used to raise or lower the pressure by supply or extracting air. Any air added to the system must be filtered [by inlet filter] 23 and any air extracted must be rendered safe by the removal of any active gas either by absorbing the gas or by decomposition with a catalyst 24.” Page 5, line 32 – page 6, line 1. See also page 6, lines 25-37. Thus, pressure within sealed enclosure 1 is controlled by the preparation region drawing in air from the outside surrounding environment through inlet filter 23 or by dispensing gas into the outside surrounding environment through exhaust purification 24. If the preparation region was disposed within sealed enclosure, it would not be able to control the pressure within sealed enclosure 1 by drawing in air from or dispensing gas into the surrounding environment that is outside of sealed enclosure. Thus, one skilled in art would not position the preparation region within sealed enclosure 1 because preparation region would no longer function as intended.

Accordingly, even assuming *arguendo* that it was obvious to make the preparation region portable so that it could be used with different sealed enclosures as alleged in the Office Action,

applicant submits that one skilled in the art would position the preparation region outside of sealed enclosure 1 where it would function as taught and as intended. Again, there is simply no teaching or benefit taught in the cited art that would motivate one skilled in the art to position the preparing region within sealed enclosure 1.

In light of the foregoing discussion, Applicant respectfully submits that the Office Action has failed to establish a *prima facie* case of obviousness with respect to claims 51-55, 57-59, 63, 65, 66, 69-72 and 74-78 at least because the Office Action has failed to show that it would have been obvious to combine *Watling* and *O'Neill* in the allegedly obvious manner set forth in the Office Action. Accordingly, Applicant respectfully requests that the obviousness rejection of claims 51-55, 57-59, 63, 65, 66, 69-72 and 74-78 be withdrawn.

2. Claims 56, 60, 64, 67 and 68

Paragraphs 3-5 of the Office Action reject claims 56, 60, 64, 67 and 68 under 35 U.S.C. §103(a) as being unpatentable over the allegedly obvious combination of *Watling* and *O'Neill* in view of various other references. Specifically, claim 56 is rejected in view of U.S. Patent No. 6,589,479 to Dufresne et al. (“*Dufresne*”); claim 60 is rejected in view of UK Patent Application No. GB 2 360 454 A to Martin (“*Martin*”); and claims 64, 67 and 68 under 35 USC § 103(a) are rejected in view of U.S. Patent No. 5,173,258 to Childers (“*Childers*”). *Dufresne* is merely cited for allegedly disclosing using biological indicators to determine when the predetermined concentration of hydrogen peroxide/water vapor in the atmosphere has been reached. *Martin* is merely cited for allegedly disclosing using a recited percentage of hydrogen peroxide solution. *Childers* is merely cited for allegedly disclosing using a heating/ventilation air conditioning system to remove the hydrogen peroxide and to dehumidify the atmosphere within the enclosure.

Applicant submits that inasmuch as the rejection of claims 56, 60, 64, 67, and 68 relies on the purportedly obvious combination of *Watling* and *O'Neill* advanced by the Office Action in connection with the rejection of claims 51-55, 57-59, 63, 65, 66, 69-72 and 74-78, the rejection of claims 56, 60, 64, 67, and 68 lacks an adequate basis for at least the same reasons as discussed above with regard to claims 51-55, 57-59, 63, 65, 66, 69-72 and 74-78. As such, Applicant respectfully requests that the obviousness rejections of claims 56, 60, 64, 67, and 68 be withdrawn.

No other objections or rejections are set forth in the Office Action.

C. Conclusion

Applicant notes that this response does not discuss every reason why the claims of the present application are distinguished over the cited art. Most notably, applicant submits that many if not all of the dependent claims are independently distinguishable over the cited art. Applicant has merely submitted those arguments which it considers sufficient to clearly distinguish the claims over the cited art.

In view of the foregoing, applicant respectfully requests the Examiner's reconsideration and allowance of claims 51-60, 63-72 and 74-78 as amended and presented herein.

In the event there remains any impediment to allowance of the claims which could be clarified in a telephonic interview, the Examiner is respectfully requested to initiate such an interview with the undersigned.

Dated this 21st day of May 2008.

Respectfully submitted,

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